Enter On-road Mobile Emissions Inventory DFW Eight-Hour Ozone Nonattainment Area

Nine Nonattainment Counties: Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Tarrant, Wise

'RFP Analysis Year	Uncontrolled or Existing Control NO <sub>X</sub> (tpd)	Controlled NO	Total Reduction NO <sub>X</sub> (tpd)	Percent Reduction	Uncontrolled or Existing Control VOC (tpd)	Controlled VOC	Total Reduction VOC (tpd)	Percent Reduction
2017	123.95	123.95	0.00	0.00	55.94	55.94	0.00	0.00
2023	1,333.33	69.82	1,263.51	94.76	753.54	37.73	715.81	94.99

#### Notes:

Note 1: The DFW 2015 ozone nonattainment area uncontrolled on-road EI values for 2017 reflect controls in place up to 2017, no post-2017 controls included (existing 2017 controls).

Note 2: The DFW 2015 ozone nonattainment area uncontrolled on-road El values for 2023 reflect pre-1990 controls, no post-1990 controls included (uncontrolled).

#### Spreadsheet Navigation

Go To Table of Contents

Go To Calc RFP Demo 2023

Go To Calc 2023 RFP MVEB

Go To Calc Targets

Go To Enter % RFP Cont & Conf SM

Appendix 1 - Sheet 17
Enter Point Source Emissions Inventory DFW 2015 Eight-Hour Ozone Nonattainment Area

Nine Nonattainment Counties: Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Tarrant, Wise

'RFP Analysis Year	Existing Controlled Emissions (as of 2017) NOX (tpd)	Post-2017 Controlled NOX (tpd)	Total Reduction NO <sub>x</sub> (tpd)	Percent Reduction	Existing Controlled Emissions (as of 2017) VOC (tpd)	Post-2017 Controlled VOC (tpd)	Total Reduction VOC (tpd)	Percent Reduction
2017	29.90	29.90	0.00	0.00	21.04	21.04	0.00	0.00
2023	38.86	38.86	0.00	0.00	21.58	21.58	0.00	0.00

#### Notes:

1) The difference between existing post-2017 Controlled emissions (as of 2017) and Post-2017 Controlled VOC emissions represents noncreditable as well as creditable reductions.

#### Spreadsheet Navigation

Go To Table of Contents

Go To Calc RFP Demo 2023

Go To Calc 2023 RFP MVEB

Go To Calc Targets

Go To Enter % RFP Cont & Conf SM

Enter 2023 Control Measure Reductions

DFW Nonattainment Area Eight-hour Ozone Season VOC and NOX

Nine Nonattainment Counties: Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Tarrant, Wise

RFP Control Strategy Description	Source Category	Total 2017 to 2023 NO <sub>X</sub> Emissions Reductions (tpd)	Total 2017 to 2023 VOC Emissions Reductions (tpd)	Use this control for RFP demonstration? (Yes or No)	Is this an on-road mobile control that will change the MVEB? (Yes or No)
Chapter 117 NO <sub>X</sub> controls	Point	0.00	0.00	Yes	No
Chapter 115 Storage Tank Rule	Point	0.00	0.00	Yes	No
Coating / printing rules	Point	0.00	0.00	Yes	No
Portable fuel containers	Area	0.00	0.00	Yes	No
Federal Motor Vehicle Control Program (FMVCP)	OR	1236.88	702.90	Yes	Yes
Reformulated Gasoline (RFG)/East Texas Regional Low RVP conventional gasoline (CG)/Tier 3 Sulfur Gasoline/Ultra Low Sulfur Diesel	OR	22.06	8.40	Yes	Yes
Inspection and Maintenance (I/M)	OR	2.09	4.51	Yes	Yes
On-road TxLED	OR	2.49	0.00	Yes	Yes
Tier I and II locomotive NO <sub>X</sub> standards	NR	1.27	0.00	Yes	No
Small non-road spark ignition (SI) engines (Phase I)	NR	-7.74	60.26	Yes	No
Heavy duty non-road engines	NR	0.85	3.29	Yes	No
Tiers 2 and 3 non-road diesel engines	NR	3.25	0.65	Yes	No
Small non-road SI engines (Phase II)	NR	5.55	56.66	Yes	No
Large non-road SI & recreational marine	NR	50.58	17.15	Yes	No
Non-road TxLED	NR	1.12	0.00	Yes	No
Non-road RFG	NR	-0.01	0.38	Yes	No
Tier 4 non-road diesel engines	NR	67.95	15.02	Yes	No
Diesel recreational marine	NR	0.01	0.00	Yes	No
Small SI (Phase III)	NR	5.28	21.87	Yes	No
Chapter 117 NO <sub>X</sub> area source engine controls	Area	0.00	0.00	Yes	No
Drilling Rigs: Federal Engine Standards and Texas Low Emission Diesel	NR	1.14	0.24	Yes	No
This row not used for current RFP	N/A	0.00	0.00	No	No
This row not used for current RFP	N/A	0.00	0.00	No	No
This row not used for current RFP	N/A	0.00	0.00	No	No
This row not used for current RFP	N/A	0.00	0.00	No	No
This row not used for current RFP	N/A	0.00	0.00	No	No
This row not used for current RFP	N/A	0.00	0.00	No	No
This row not used for current RFP	N/A	0.00	0.00	No	No
This row not used for current RFP	N/A	0.00	0.00	No	No
This row not used for current RFP	N/A	0.00	0.00	No	No
This row not used for current RFP	N/A	0.00	0.00	No	No
This row not used for current RFP	N/A	0.00	0.00	No	No
This row not used for current RFP	N/A	0.00	0.00	No	No
This row not used for current RFP	N/A	0.00	0.00	No	No
This row not used for current RFP	N/A	0.00	0.00	No	No
Total		1392.77	891.33		

#### Notes

- 1) Point source Chapter 117 NOX controls in the DFW area had compliance deadlines before 2017. The 2017 El includes the effects of the control. No additional control beyond 2017 are claimed.
- 2) Area source Chapter 117 NOX controls in the DFW area had compliance deadlines before 2017. The 2017 El includes the effects of the control. No additional control beyond 2017 are claimed.
- 3) Area source Portable fuel containers controls in the DFW area had compliance deadlines before 2017. The 2017 EI includes the effects of the control. No additional control beyond 2017 are claimed.
- 4) The nine county DFW area includes counties with federal RFG and counties with Texas Regional Low RVP. The four counties with RFG are: Collin, Dallas Denton and Tarrant. The five counties with Texas Regional Low RVP are: Ellis, Johnson, Kaufman, Parker, and Wise.
- 5) Inspection and Maintenance Program is not modeled for Wise County.
- 6)"This row not used for current RFP" control rows were created only to allow for planners to easily add controls for alternative scenario analyses.

#### Spreadsheet Navigation

Go To Table of Contents

Go To Calc RFP Demo 2023

Go To Calc 2023 RFP MVEB

Go To Calc Targets

Go To Enter % RFP Cont & Conf SM

Enter 2024 Contingency Measure Control Measure Reductions
DFW 2015 Nonattainment Area Eight-Hour Ozone Season VOC and NOX
Nine Nonattainment Counties: Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Tarrant, Wise

RFP Control Strategy Description	Source Category	Total 2017 to 2024 NO <sub>X</sub> Emissions Reductions (tpd)	Total 2017 to 2024 VOC Emissions Reductions (tpd)	Use this control for 2021 RFP contingency? (Yes or No)
Chapter 117 NOX controls	Point	0.00	0.00	No
Chapter 115 Storage Tank Rule	Point	0.00	0.00	No
Coating / printing rules	Point	0.00	0.00	No
Portable fuel containers	Area	0.00	0.00	No
Federal Motor Vehicle Control Program (FMVCP)	OR	1265.43	718.40	Yes
Reformulated Gasoline (RFG)/East Texas Regional Low RVP conventional ga	OR	20.21	8.17	Yes
Inspection and Maintenance (I/M)	OR	1.84	4.46	Yes
On-road TxLED	OR	2.37	0.00	Yes
Tier I and II locomotive NOX standards	NR	0.00	0.00	No
Small non-road spark ignition (SI) engines (Phase I)	NR	-7.90	61.45	Yes
Heavy duty non-road engines	NR	0.76	3.30	Yes
Tiers 2 and 3 non-road diesel engines	NR	3.11	0.61	Yes
Small non-road SI engines (Phase II)	NR	5.66	57.69	Yes
Large non-road SI & recreational marine	NR	52.78	17.85	Yes
Non-road TxLED	NR	1.09	0.00	Yes
Non-road RFG	NR	-0.01	0.39	Yes
Tier 4 non-road diesel engines	NR	69.27	15.30	Yes
Diesel recreational marine	NR	0.01	0.00	Yes
Small SI (Phase III)	NR	5.40	22.35	Yes
Chapter 117 NOX area source engine controls	Area	0.00	0.00	No
Drilling Rigs: Federal Engine Standards and Texas Low Emission Diesel	NR	0.00	0.00	No
This row not used for current RFP	N/A	0.00	0.00	No
This row not used for current RFP	N/A	0.00	0.00	No
This row not used for current RFP	N/A	0.00	0.00	No
This row not used for current RFP	N/A	0.00	0.00	No
This row not used for current RFP	N/A	0.00	0.00	No
This row not used for current RFP	N/A	0.00	0.00	No
This row not used for current RFP	N/A	0.00	0.00	No
This row not used for current RFP	N/A	0.00	0.00	No
This row not used for current RFP	N/A	0.00	0.00	No
This row not used for current RFP	N/A	0.00	0.00	No
This row not used for current RFP	N/A	0.00	0.00	No
This row not used for current RFP	N/A	0.00	0.00	No
This row not used for current RFP	N/A	0.00	0.00	No
This row not used for current RFP	N/A	0.00	0.00	No
Total		1420.01	909.97	

Note: Unspecified control rows were created only to allow for planners to easily add controls for alternative scenario analyses.

#### <u>Notes</u>

Please see notes for the control reductions on:

18 Enter Reductions 2023

## Spreadsheet Navigation

Go To Table of Contents

Go To Calc RFP Demo 2023

Go To Calc 2023 RFP MVEB

Go To Calc Targets

Go To Enter % RFP Cont & Conf SM

Calculate 2017 RFP Base Year Emissions Inventory

DFW 2015 Eight-Hour Ozone Nonattainment Area

Nine Nonattainment Counties: Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Tarrant, Wise

Data Entry Sheet	Data Entry Sheet
------------------	------------------

The 2017 Base Year Inventory	NO <sub>x</sub> (tons/day)	VOC (tons/day)
Point Source 2017 El	29.90	21.04
Area Source 2017 EI	42.80	306.93
On-road mobile 2017 El	123.95	55.94
Non-road mobile 2017 El	66.37	44.52
Biogenic 2017 El (see Note 1)	See Note 1	See Note 1
Total 2017 Base Year Inventory	263.02	428.43

#### Notes:

1) Beginning with the Air Emissions Reporting Requirements (December 2008), the emissions required to be reported no longer include emissions from biogenic sources. Therefore, as of the 2017 reporting year, the comprehensive triennial emissions inventory no longer includes emissions from biogenic sources. The RFP demonstrations are based upon the emissions from anthropogenic sources. The guidance for RFP calculations shows the first step is to subtract the emissions from biogenic sources from the total base year emissions to obtain the total anthropogenic emission inventory. As of 2017, under the AERR, the base year emissions do not include biogenic sources and already represent the total anthropogenic emissions. In this case, step one of the RFP process is not needed, and the emissions from biogenic sources is unnecessary. This RFP SIP revision: uses a base year of 2017; does not require subtraction of the biogenic emissions in Step One of the RFP calculation process; and does not include quantification of emissions from biogenic sources.

## Spreadsheet Navigation

Go To Table of Contents

Go To Calc RFP Demo 2023

Go To Calc 2023 RFP MVEB

Go To Calc Targets

Go To Enter % RFP Cont & Conf SM

2023 Forecasted Uncontrolled or Existing Control Emissions Inventory with pre-2017 Controls DFW 2015 Nonattainment Area Eight-Hour Ozone Season VOC and NOX Nine Nonattainment Counties: Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Tarrant, Wise

Uncontrolled or Existing Control EI with pre-2017 controls: These calculations add up to the total Uncontrolled or

Forecasted 2023 Uncontrolled or Existing Control Emissions Inventory with pre-2017 Controls					
Emissions Description	NO <sub>X</sub> (tpd)	VOC (tpd)			
Point Source	38.86	21.58			
Area Source	38.34	288.52			
On-Road Mobile Source	1333.33	753.54			
Non-Road Mobile Source	187.83	221.32			
Total	1598.36	1284.96			

# **Spreadsheet Navigation**

Go To Table of Contents

Go To Calc RFP Demo 2023

Go To Calc 2023 RFP MVEB

Go To Calc Targets

Go To Enter % RFP Cont & Conf SM

Go To Enter Reductions 2023

Go To Calc 2017 Base Year El

Calculations: 2017 to 2023 Control Measures Reductions

DFW Nonattainment Area Eight-Hour Ozone Season VOC and NOX

Nine Nonattainment Counties: Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Tarrant, Wise

Explanation: The control strategy name, control reduction amount, status of inclusion of the control in the RFP calculations, and whether or not the control is for on-road mobile sources were all input into the Enter Reductions 2023 sheet. The reduction is the reduction that is creditable from each control between 2017 and 2023. If the control has been turned off by inputting a "No" in the "Use this control for 2023 RFP demonstration?" column, the spreadsheet will put a zero in for the reduction for that control on this sheet, even if a positive value for the control was input into the Enter Reductions 2023 sheet. If it was intended to have a positive reduction for the control but there is a zero, go back to the Enter Reductions 2020 Sheet and change the No to a Yes indicating that the control will be used for RFP demonstration.

Creditable Reductions Control Strategy	Source Category	Total 2017 to 2023 NOX Emissions Reductions (tpd)	Total 2017 to 2023 VOC Emissions Reductions (tpd)	Use this control for RFP demonstration? (Yes or No)	Is this an on-road mobile control that will change the MVEB? (Yes or No)
Chapter 117 NOX controls	Point	0.00	0.00	Yes	No
Chapter 115 Storage Tank Rule	Point	0.00	0.00	Yes	No
Coating / printing rules	Point	0.00	0.00	Yes	No
Portable fuel containers	Area	0.00	0.00	Yes	No
Federal Motor Vehicle Control Program (FMVCP)	OR	1236.88	702.90	Yes	Yes
Reformulated Gasoline (RFG)/East Texas Regional Low RVP conventional ga	OR	22.06	8.40	Yes	Yes
Inspection and Maintenance (I/M)	OR	2.09	4.51	Yes	Yes
On-road TxLED	OR	2.49	0.00	Yes	Yes
Tier I and II locomotive NOX standards	NR	1.27	0.00	Yes	No
Small non-road spark ignition (SI) engines (Phase I)	NR	-7.74	60.26	Yes	No
Heavy duty non-road engines	NR	0.85	3.29	Yes	No
Tiers 2 and 3 non-road diesel engines	NR	3.25	0.65	Yes	No
Small non-road SI engines (Phase II)	NR	5.55	56.66	Yes	No
Large non-road SI & recreational marine	NR	50.58	17.15	Yes	No
Non-road TxLED	NR	1.12	0.00	Yes	No
Non-road RFG	NR	-0.01	0.38	Yes	No
Tier 4 non-road diesel engines	NR	67.95	15.02	Yes	No
Diesel recreational marine	NR	0.01	0.00	Yes	No
Small SI (Phase III)	NR	5.28	21.87	Yes	No
Chapter 117 NOX area source engine controls	Area	0.00	0.00	Yes	No
Drilling Rigs: Federal Engine Standards and Texas Low Emission Diesel	NR	1.14	0.24	Yes	No
This row not used for current RFP	N/A	0.00	0.00	No	No
This row not used for current RFP	N/A	0.00	0.00	No	No
This row not used for current RFP	N/A	0.00	0.00	No	No
This row not used for current RFP	N/A	0.00	0.00	No	No
This row not used for current RFP	N/A	0.00	0.00	No	No
This row not used for current RFP	N/A	0.00	0.00	No	No
This row not used for current RFP	N/A	0.00	0.00	No	No
This row not used for current RFP	N/A	0.00	0.00	No	No
This row not used for current RFP	N/A	0.00	0.00	No	No
This row not used for current RFP	N/A	0.00	0.00	No	No
This row not used for current RFP	N/A	0.00	0.00	No	No
This row not used for current RFP	N/A	0.00	0.00	No	No
This row not used for current RFP	N/A	0.00	0.00	No	No
This row not used for current RFP	N/A	0.00	0.00	No	No
Total 2020 RFP Control Reductions		1392.77	891.33		

#### Spreadsheet Navigation

Go To Table of Contents

Go To Calc RFP Demo 2023

Go To Calc 2023 RFP MVEB

Go To Calc Targets

Go To Enter % RFP Cont & Conf SM

Go To Enter Reductions 2023

Go To Calc 2017 Base Year El

Calculations: 2023-2024 Contingency Control Measures Reductions
DFW 2015 Nonattainment Area Eight-Hour Ozone Season VOC and NOX

Nine Nonattainment Counties: Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Tarrant, Wise

Explanation: The control strategy name, control reduction amount, status of inclusion of the control in the RFP calculations, and whether or not the control is for on-road mobile sources were all input into the Enter Cont Reductions 2024 sheet. The reduction is the reduction that is creditable from each control between 2023 and 2024. If the control has been turned off by inputting a "No" in the "Use this control for 2024 RFP contingency demonstration?" column, the spreadsheet will put a zero in for the reduction for that control on this sheet, even if a positive value for the control was input into the Enter Cont Reductions 2024 sheet. If it was intended to have a positive reduction for the control but there is a zero, go back to the Enter Cont Reductions 2024 Sheet and change the No to a Yes indicating that the control will be used for RFP contingency demonstration.

RFP Control Strategy Description	Source Category	Total 2023 to 2024 NO <sub>X</sub> Emissions Reductions (tpd)	Total 2023 to 2024 VOC Emissions Reductions (tpd)	Use this control for 2021 RFP contingency demonstration? (Yes or No)
Chapter 117 NOX controls	Point 0.00		0.00	No
Chapter 115 Storage Tank Rule	Point	0.00	0.00	No
Coating / printing rules	Point	0.00	0.00	No
Portable fuel containers	Area	0.00	0.00	No
Federal Motor Vehicle Control Program (FMVCP)	OR	28.55	15.50	Yes
Reformulated Gasoline (RFG)/East Texas Regional Low RVP conventional	OR	-1.85	-0.23	Yes
Inspection and Maintenance (I/M)	OR	-0.25	-0.05	Yes
On-road TxLED	OR	-0.12	0.00	Yes
Tier I and II locomotive NOX standards	NR	0.00	0.00	No
Small non-road spark ignition (SI) engines (Phase I)	NR	-0.16	1.19	Yes
Heavy duty non-road engines	NR	-0.09	0.01	Yes
Tiers 2 and 3 non-road diesel engines	NR	-0.14	-0.04	Yes
Small non-road SI engines (Phase II)	NR	0.11	1.03	Yes
Large non-road SI & recreational marine	NR	2.20	0.70	Yes
Non-road TxLED	NR	-0.03	0.00	Yes
Non-road RFG	NR	0.00	0.01	Yes
Tier 4 non-road diesel engines	NR	1.32	0.28	Yes
Diesel recreational marine	NR	0.00	0.00	Yes
Small SI (Phase III)	NR	0.12	0.48	Yes
Chapter 117 NOX area source engine controls	Area	0.00	0.00	No
Drilling Rigs: Federal Engine Standards and Texas Low Emission Diesel	NR	0.00	0.00	No
This row not used for current RFP	N/A	0.00	0.00	No
This row not used for current RFP	N/A	0.00	0.00	No
This row not used for current RFP	N/A	0.00	0.00	No
This row not used for current RFP	N/A	0.00	0.00	No
This row not used for current RFP	N/A	0.00	0.00	No
This row not used for current RFP	N/A	0.00	0.00	No
This row not used for current RFP	N/A	0.00	0.00	No
This row not used for current RFP	N/A	0.00	0.00	No
This row not used for current RFP	N/A	0.00	0.00	No
This row not used for current RFP	N/A	0.00	0.00	No
This row not used for current RFP	N/A	0.00	0.00	No
This row not used for current RFP	N/A	0.00	0.00	No
This row not used for current RFP	N/A	0.00	0.00	No
This row not used for current RFP	N/A	0.00	0.00	No
Total 2021 RFP Control Reductions		29.66	18.88	

## Spreadsheet Navigation

Go To Table of Contents

Go To Calc RFP Demo 2023

Go To Calc 2023 RFP MVEB

Go To Calc Targets

Go To Enter % RFP Cont & Conf SM

Go To Enter Reductions 2023

Go To Calc 2017 Base Year El

Calculations: 2017 to 2023 On-road Control Measures Reductions

DFW 2015 Nonattainment Area Eight-Hour Ozone Season VOC and NOX

 ${\bf Nine\ Nonattainment\ Counties:\ Collin,\ Dallas,\ Denton,\ Ellis,\ Johnson,\ Kaufman,\ Parker,\ Tarrant,\ Wise}$ 

Creditable Reductions Control Strategy	Control Used for RFP Demonstration?	On-road Mobile Source Control?	Total 2017 - 2023 'On-road Mobile NO <sub>x</sub> Emissions Reductions (tpd)	Total 2017 - 2023 'On-road Mobile VOC Emissions Reductions (tpd)
Chapter 117 NOX controls	Yes	No	0.00	0.00
Chapter 115 Storage Tank Rule	Yes	No	0.00	0.00
Coating / printing rules	Yes	No	0.00	0.00
Portable fuel containers	Yes	No	0.00	0.00
Federal Motor Vehicle Control Program (FMVCP)	Yes	Yes	1236.88	702.90
Reformulated Gasoline (RFG)/East Texas Regional Low RVP conventional	Yes	Yes	22.06	8.40
Inspection and Maintenance (I/M)	Yes	Yes	2.09	4.51
On-road TxLED	Yes	Yes	2.49	0.00
Tier I and II locomotive NOX standards	Yes	No	0.00	0.00
Small non-road spark ignition (SI) engines (Phase I)	Yes	No	0.00	0.00
Heavy duty non-road engines	Yes	No	0.00	0.00
Tiers 2 and 3 non-road diesel engines	Yes	No	0.00	0.00
Small non-road SI engines (Phase II)	Yes	No	0.00	0.00
Large non-road SI & recreational marine	Yes	No	0.00	0.00
Non-road TxLED	Yes	No	0.00	0.00
Non-road RFG	Yes	No	0.00	0.00
Tier 4 non-road diesel engines	Yes	No	0.00	0.00
Diesel recreational marine	Yes	No	0.00	0.00
Small SI (Phase III)	Yes	No	0.00	0.00
Chapter 117 NOX area source engine controls	Yes	No	0.00	0.00
Drilling Rigs: Federal Engine Standards and Texas Low Emission Diesel	Yes	No	0.00	0.00
This row not used for current RFP	No	No	0.00	0.00
This row not used for current RFP	No	No	0.00	0.00
This row not used for current RFP	No	No	0.00	0.00
This row not used for current RFP	No	No	0.00	0.00
This row not used for current RFP	No	No	0.00	0.00
This row not used for current RFP	No	No	0.00	0.00
This row not used for current RFP	No	No	0.00	0.00
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This row not used for current RFP	No	No	0.00	0.00
This row not used for current RFP	No	No	0.00	0.00
This row not used for current RFP	No	No	0.00	0.00
This row not used for current RFP	No	No	0.00	0.00
This row not used for current RFP	No	No	0.00	0.00
This row not used for current RFP	No	No	0.00	0.00
Total On-road Mobile Source RFP Control Reductions			1263.52	715.81

#### Spreadsheet Navigation

Go To Table of Contents

Go To Calc RFP Demo 2023

Go To Calc 2023 RFP MVEB

Go To Calc Targets

Go To Enter % RFP Cont & Conf SM

Go To Enter Reductions 2023

Go To Calc 2017 Base Year El

Go To Calc Uncontrol 2023 El

Summary Sheet: Uncontrolled or Existing Control NOX Emissions Inventory

DFW 2015 Eight-Hour Ozone Nonattainment Area

Nine Nonattainment Counties: Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Tarrant, Wise

# 2017 Uncontrolled or Existing Control NOX (tons per day)

RFP Analysis Year	DFW
Area Sources	42.80
Non-Road Mobile Sources	160.92
On-Road Mobile Sources	123.95
Point Sources	29.90
Total	357.57

# 2023 Uncontrolled or Existing Control NOX (tons per day)

RFP Analysis Year	DFW
Area Sources	38.34
Non-Road Mobile Sources	187.83
On-Road Mobile Sources	1,333.33
Point Sources	38.86
Total	1,598.36

## Spreadsheet Navigation

Go To Table of Contents

Go To Calc RFP Demo 2023

Go To Calc 2023 RFP MVEB

Go To Calc Targets

Go To Enter % RFP Cont & Conf SM

Go To Enter Reductions 2023

Go To Calc 2017 Base Year El

Go To Calc Uncontrol 2023 El

Go To Calc Control 2023

Go To El 2017 Summary

Summary Sheet: Controlled or Post-2017 Controlled NOX Emissions Inventory

DFW 2015 Eight-Hour Ozone Nonattainment Area

Nine Nonattainment Counties: Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Tarrant, Wise

# Controlled or Post-2017 Controlled NOX for 2017 (tons per day)

RFP Analysis Year	DFW
Area Sources	42.80
Non-Road Mobile Sources	66.37
On-Road Mobile Sources	123.95
Point Sources	29.90
Total	263.02

## Controlled or Post-2017 Controlled NOX for 2023 (tons per day)

RFP Analysis Year	DFW
Area Sources	38.34
Non-Road Mobile Sources	58.26
On-Road Mobile Sources	69.82
Point Sources	38.86
Total	205.28

Note: The controlled inventory shown here includes all controls. The controlled RFP inventory may not include all controls and may therefore be a higher value than shown here.

## **Spreadsheet Navigation**

Go To Table of Contents

Go To Calc RFP Demo 2023

Go To Calc 2023 RFP MVEB

Go To Calc Targets

Go To Enter % RFP Cont & Conf SM

Go To Enter Reductions 2023

Go To Calc 2017 Base Year El

Go To Calc Uncontrol 2023 El

Go To Calc Control 2023

Go To El 2017 Summary

Summary Sheet: Uncontrolled or Existing Control VOC Emissions Inventory

DFW 2015 Eight-Hour Ozone Nonattainment Area

Nine Nonattainment Counties: Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Tarrant, Wise

## 2017 Uncontrolled or Existing Control VOC (tons per day)

RFP Analysis Year	DFW
Area Sources	306.93
Non-Road Mobile Sources	193.58
On-Road Mobile Sources	55.94
Point Sources	21.04
Total	577.49

## 2023 Uncontrolled or Existing Control VOC (tons per day)

RFP Analysis Year	DFW
Area Sources	288.52
Non-Road Mobile Sources	221.32
On-Road Mobile Sources	753.54
Point Sources	21.58
Total	1,284.96

## **Spreadsheet Navigation**

Go To Table of Contents

Go To Calc RFP Demo 2023

Go To Calc 2023 RFP MVEB

Go To Calc Targets

Go To Enter % RFP Cont & Conf SM

Go To Enter Reductions 2023

Go To Calc 2017 Base Year El

Go To Calc Uncontrol 2023 El

Go To Calc Control 2023

Go To El 2017 Summary

Summary Sheet: Controlled or Post-2017 Controlled VOC Emissions Inventory

DFW 2015 Eight-Hour Ozone Nonattainment Area

Nine Nonattainment Counties: Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Tarrant, Wise

## Controlled or Post-2017 Controlled VOC for 2017 (tons per day)

RFP Analysis Year	DFW
Area Sources	306.93
Non-Road Mobile Sources	44.52
On-Road Mobile Sources	55.94
Point Sources	21.04
Total	428.43

# Controlled or Post-2017 Controlled VOC for 2023 (tons per day)

RFP Analysis Year	DFW
Area Sources	288.52
Non-Road Mobile Sources	45.75
On-Road Mobile Sources	37.73
Point Sources	21.58
Total	393.58

Note: The controlled inventory shown here includes all controls. The controlled RFP inventory may not include all controls and may therefore be a higher value than shown here.

## **Spreadsheet Navigation**

Go To Table of Contents

Go To Calc RFP Demo 2023

Go To Calc 2023 RFP MVEB

Go To Calc Targets

Go To Enter % RFP Cont & Conf SM

Go To Enter Reductions 2023

Go To Calc 2017 Base Year El

Go To Calc Uncontrol 2023 El

Go To Calc Control 2023

Go To El 2017 Summary

Summary Sheet: 2017 Emissions Inventory By Category DFW 2015 Eight-Hour Ozone Nonattainment Area

Nine Nonattainment Counties: Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Tarrant, Wise

# 2017 (tons per day)

Emissons Inventory Source	Uncontrolled or Existing Control NOx	Controlled or Post-2017 Controlled NOx	Uncontrolled or Existing Control VOC	Controlled or Post-2017 Controlled VOC
Area Sources	42.80	42.80	306.93	306.93
Non-Road Mobile Sources	160.92	66.37	193.58	44.52
On-Road Mobile Sources	123.95	123.95	55.94	55.94
Point Sources	29.90	29.90	21.04	21.04
Total	357.57	263.02	577.49	428.43

Note: The controlled inventory shown here includes all controls. The controlled RFP inventory may not include all controls and may therefore be a higher value than shown here.

## DFW RFP Summary of the 2017 Base Year Average Summer Weekday NOX and VOC Emissions (tons per day

Emissions Inventory Source	Uncontrolled NO <sub>X</sub>	Controlled NO <sub>X</sub>	Uncontrolled VOC	Controlled VOC
Non-Road Mobile Sources	160.92	66.37	193.58	44.52
On-Road Mobile Sources	123.95	123.95	55.94	55.94
Emissions Inventory Source	Existing Controlled NO <sub>X</sub>	Post-2017 Controlled NO <sub>X</sub>	Uncontrolled VOC	Post-2017 Controlled VOC
Area Sources	42.80	42.80	306.93	306.93
Point Sources	29.90	29.90	21.04	21.04
Total of All Sources	357.57	263.02	577.49	428.43

**QA** 357.57 263.02 577.49 428.43

**Spreadsheet Navigation** 

Go To Table of Contents

Go To Calc RFP Demo 2023

Go To Calc 2023 RFP MVEB

Go To Calc Targets

Go To Enter % RFP Cont & Conf SM

Summary Sheet: 2023 Emissions Inventory By Category DFW 2015 Eight-Hour Ozone Nonattainment Area

Nine Nonattainment Counties: Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Tarrant, Wise

# 2023 (tons per day)

Emissons Inventory Source	Uncontrolled or Existing Control NOx	Controlled or Post- 2017 Controlled NOx	Uncontrolled or Existing Control VOC	Controlled or Post- 2017 Controlled VOC
Area Sources	38.34	38.34	288.52	288.52
Non-Road Mobile Sources	187.83	58.26	221.32	45.75
On-Road Mobile Sources	1333.33	69.82	753.54	37.73
Point Sources	38.86	38.86	21.58	21.58
Total	1598.36	205.28	1284.96	393.58

Note: The controlled inventory shown here includes all controls. The controlled RFP inventory may not include all controls and

## DFW RFP Summary of the 2023 Attainment Year Average Summer Weekday NOX and VOC Emissions (tons per day)

Emissions Inventory Source	Uncontrolled NO <sub>X</sub>	Controlled NO <sub>X</sub>	Uncontrolled VOC	Controlled VOC
Non-Road Mobile Sources	187.83	58.26	221.32	45.75
On-Road Mobile Sources	1333.33	69.82	753.54	37.73
Emissions Inventory Source	Existing Controlled NO <sub>X</sub>	Post-2017 Controlled NO <sub>X</sub>	Uncontrolled VOC	Post-2017 Controlled VOC
Area Sources	38.34	38.34	288.52	288.52
Point Sources	38.86	38.86	21.58	21.58
Total of All Sources	1598.36	205.28	1284.96	393.58

**QA** 1598.36 205.28 1284.96 393.58

**Spreadsheet Navigation** 

Go To Table of Contents

Go To Calc RFP Demo 2023

Go To Calc 2023 RFP MVEB

Go To Calc Targets

Go To Enter % RFP Cont & Conf SM

Appendix 1 - Sheet 31 Summary Total Non-Road Emissions Inventory DFW 2015 Eight-Hour Ozone Nonattainment Area

Nine Nonattainment Counties: Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Tarrant, Wise

'RFP Analysis Year	Uncontrolled NO <sub>X</sub> (tpd)	Controlled NO <sub>x</sub> (tpd)	Total Reduction NO <sub>X</sub> (tpd)	Percent Reduction	Uncontrolled VOC (tpd)	Controlled VOC (tpd)	Total Reduction VOC (tpd)	Percent Reduction
2017	160.92	66.37	94.55	58.76	193.58	44.52	149.06	77.00
2023	187.83	58.26	129.57	68.98	221.32	45.75	175.57	79.33

Notes:

Spreadsheet Navigation

Go To Table of Contents

Go To Calc RFP Demo 2023

Go To Calc 2023 RFP MVEB

Go To Calc Targets

Go To Enter % RFP Cont & Conf SM

Summary Sheet: 2017 Non-Road Summary by Category DFW 2015 Eight-Hour Ozone Nonattainment Area

Nine Nonattainment Counties: Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Tarrant, Wise

# 2017 (tons per day)

Emissons Inventory Source	Uncontrolled NOx	Controlled NOx	Uncontrolled VOC	Controlled VOC
Airport	16.28	15.96	4.12	4.07
Locomotive	12.57	11.09	0.54	0.54
NONROAD Model	131.61	39.17	188.84	39.89
Drilling Rigs	0.46	0.15	0.08	0.02
Total AL	28.85	27.05	4.66	4.61
AL Plus Drilling Rigs (Off-road)	29.31	27.20	4.74	4.63
Total All	160.92	66.37	193.58	44.52

Note: The controlled inventory shown here includes all controls. The controlled RFP inventory may not include all controls and may therefore be a higher value than shown here.

## Spreadsheet Navigation

Go To Table of Contents

Go To Calc RFP Demo 2023

Go To Calc 2023 RFP MVEB

Go To Calc Targets

Go To Enter % RFP Cont & Conf SM

Go To Enter Reductions 2023

Go To Calc 2017 Base Year El

Go To Calc Uncontrol 2023 El

Go To Calc Control 2023

Go To El 2017 Summary

Summary Sheet: 2023 Non-Road Summary by Category DFW 2015 Eight-Hour Ozone Nonattainment Area

Nine Nonattainment Counties: Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Tarrant, Wise

## 2023 (tons per day)

Emissons Inventory Source	Uncontrolled NOx	Controlled NOx	Uncontrolled VOC	Controlled VOC
Airport	16.00	15.69	4.28	4.23
Locomotive	9.14	7.87	0.35	0.35
NONROAD Model	161.11	34.26	216.42	41.14
Drilling Rigs	1.58	0.44	0.27	0.03
Total AL	25.14	23.56	4.63	4.58
AL Plus Drilling Rigs (Off-road)	26.72	24.00	4.90	4.61
Total All	187.83	58.26	221.32	45.75

Note: The controlled inventory shown here includes all controls. The controlled RFP inventory may not include all controls and may therefore be a higher value than shown here.

# **Spreadsheet Navigation**

Go To Table of Contents

Go To Calc RFP Demo 2023

Go To Calc 2023 RFP MVEB

Go To Calc Targets

Go To Enter % RFP Cont & Conf SM

Go To Enter Reductions 2023

Go To Calc 2017 Base Year El

Go To Calc Uncontrol 2023 El

Go To Calc Control 2023

Go To El 2017 Summary

Summary Sheet: 2017 and 2023 On-Road Summaries

DFW Eight-Hour Ozone Nonattainment Area

Nine Nonattainment Counties: Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Tarrant, Wise

## DFW Nine County RFP Ozone Season Weekday On-Road Mobile Source NOX Emissions

RFP Analysis Year Inventory	Uncontrolled or Existing Control NOX (tons per day)	Controlled NOX (tons per day)
2017 Base Year	123.95	123.95
2023 Attainment Year	1,333.33	69.82

## DFW Nine County RFP Ozone Season Weekday On-Road Mobile Source VOC Emissions

RFP Analysis Year Inventory	Uncontrolled or Existing Control VOC (tons per day)	Controlled VOC (tons per day)
2017 Base Year	55.94	55.94
2023 Attainment Year	753.54	37.73

## 2023 DFW Nine County RFP Ozone Season Weekday On-Road Mobile Source NOX and VOC Emissions and Control Strategy Reductions

RFP Analysis Year and Inventory of On-Road Mobile Emissions Inventory Strategies	NOX (tons per day)	VOC (tons per day)
2023 Uncontrolled Inventory	1,333.33	753.54
Federal Motor Vehicle Control Program (FMVCP)	1236.88	702.90
Reformulated Gasoline (RFG)/East Texas Regional Low RVP/Low Sulfur	22.06	8.40
Inspection and Maintenance (I/M)	2.09	4.51
On-road TxLED	2.49	0.00
2023 Controlled Inventory	69.82	37.73
QA Check	69.809999999999	37.7300000000000

**Spreadsheet Navigation** 

Go To Table of Contents

Go To Calc RFP Demo 2023

Go To Calc 2023 RFP MVEB

Go To Calc Targets

Go To Enter % RFP Cont & Conf SM

Go To Enter Reductions 2023

Go To Calc 2017 Base Year El

Go To Calc Uncontrol 2023 EI

Go To Calc Control 2023

Go To El 2017 Summary

Go To El 2023 Summary

Summary Sheet: Calculation Process for 2023 Target Levels of Emissions

DFW 2015 Eight-Hour Ozone Nonattainment Area

Nine Nonattainment Counties: Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Tarrant, Wise

Summary of the Calculation Process for 2023 DFW RFP Target Levels

Line	Description	NO <sub>X</sub>	VOC
Line 1	Step 1: 2017 base year emissions inventory (see Table 2-13)	263.02	428.43
Line 2	Percent of NO <sub>x</sub> (PN) and VOC (PV) to meet 15% reduction requirement (PN plus PV = 15)	7.70%	7.30%
Line 3	Step 2: Calculate the total NO <sub>X</sub> and VOC reduction requirement between 2017 and 2023 (Line 1 Multiplied by Line 2)	20.25	31.28
Line 4	Step 3: Calculate the 2023 target level of emissions (Line 1 minus Line 3)	242.77	397.15

## Spreadsheet Navigation

Go To Table of Contents

Go To Calc RFP Demo 2023

Go To Calc 2023 RFP MVEB

Go To Calc Targets

Go To Enter % RFP Cont & Conf SM

Go To Enter Reductions 2023

Go To Calc 2017 Base Year El

Go To Calc Uncontrol 2023 El

Go To Calc Control 2023

Go To El 2017 Summary

Go To El 2023 Summary

Summary Sheet: Total RFP Emissions Reductions DFW 2015 Eight-Hour Ozone Nonattainment Area

Nine Nonattainment Counties: Collin, Dallas, Denton, Ellis, Johnson,

Control Strategy Description	NO <sub>X</sub> Reductions	VOC Reductions
Chapter 117 NOX controls	0.00	0.00
Chapter 115 Storage Tank Rule	0.00	0.00
Coating / printing rules	0.00	0.00
Portable fuel containers	0.00	0.00
Federal Motor Vehicle Control Program (FMVCP)	1236.88	702.90
Reformulated Gasoline (RFG)/East Texas Regional Low RVP conventional ga	22.06	8.40
Inspection and Maintenance (I/M)	2.09	4.51
On-road TxLED	2.49	0.00
Tier I and II locomotive NOX standards	1.27	0.00
Small non-road spark ignition (SI) engines (Phase I)	-7.74	
Heavy duty non-road engines	0.85	3.29
Tiers 2 and 3 non-road diesel engines	3.25	0.65
Small non-road SI engines (Phase II)	5.55	56.66
Large non-road SI & recreational marine	50.58	17.15
Non-road TxLED	1.12	0.00
Non-road RFG	-0.01	0.38
Tier 4 non-road diesel engines	67.95	15.02
Diesel recreational marine	0.01	0.00
Small SI (Phase III)	5.28	21.87
Chapter 117 NOX area source engine controls	0.00	0.00
Drilling Rigs: Federal Engine Standards and Texas Low Emission Diesel	1.14	0.24
This row not used for current RFP	0.00	0.00
Total:	1392.77	891.33

# **Spreadsheet Navigation**

Go To Table of Contents

Go To Calc RFP Demo 2023

Go To Calc 2023 RFP MVEB

Go To Calc Targets

Go To Enter % RFP Cont & Conf SM

Go To Enter Reductions 2023

Go To Calc 2017 Base Year El

Go To Calc Uncontrol 2023 El

Go To Calc Control 2023

Go To El 2017 Summary

Summary Sheet: Point Source RFP Emissions Reductions

DFW 2015 Eight-Hour Ozone Nonattainment Area

Nine Nonattainment Counties: Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Tarrant, Wise

Emissions	NO <sub>X</sub>	VOC
Existing Controlled Emissions (as of 2017)	38.86	21.58
RFP Point Source Reductions	0.00	0.00
RFP Post-2017 Controlled Emissions	38.86	21.58

## **Spreadsheet Navigation**

Go To Table of Contents

Go To Calc RFP Demo 2023

Go To Calc 2023 RFP MVEB

Go To Calc Targets

Go To Enter % RFP Cont & Conf SM

Go To Enter Reductions 2023

Go To Calc 2017 Base Year El

Go To Calc Uncontrol 2023 El

Go To Calc Control 2023

Go To El 2017 Summary

Go To El 2023 Summary

Summary Sheet: Area Source RFP Emissions Reductions

DFW 2015 Eight-Hour Ozone Nonattainment Area

Nine Nonattainment Counties: Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Tarrant, Wise

Emissions	NO <sub>X</sub>	VOC
Existing Controlled Emissions (as of 2017)	38.34	288.52
RFP Area Source Reductions	0.00	0.00
RFP Post-2017 Controlled Emissions	38.34	288.52

## **Spreadsheet Navigation**

Go To Table of Contents

Go To Calc RFP Demo 2023

Go To Calc 2023 RFP MVEB

Go To Calc Targets

Go To Enter % RFP Cont & Conf SM

Go To Enter Reductions 2023

Go To Calc 2017 Base Year El

Go To Calc Uncontrol 2023 El

Go To Calc Control 2023

Go To El 2017 Summary

Go To El 2023 Summary

Summary Sheet: Non-Road Source RFP Emissions Reductions

DFW 2015 Eight-Hour Ozone Nonattainment Area

Nine Nonattainment Counties: Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Tarrant, Wise

Emissions	NO <sub>X</sub>	VOC
Uncontrolled	187.82	221.32
RFP Non-Road Source Reductions	129.25	175.52
RFP Post-2017 Controlled Emissions	58.57	45.80

## **Spreadsheet Navigation**

Go To Table of Contents

Go To Calc RFP Demo 2023

Go To Calc 2023 RFP MVEB

Go To Calc Targets

Go To Enter % RFP Cont & Conf SM

Go To Enter Reductions 2023

Go To Calc 2017 Base Year El

Go To Calc Uncontrol 2023 El

Go To Calc Control 2023

Go To El 2017 Summary

Go To El 2023 Summary

Summary Sheet: On-Road Source RFP Emissions Reductions

DFW 2015 Eight-Hour Ozone Nonattainment Area

Nine Nonattainment Counties: Collin,

Emissions	NO <sub>X</sub>	VOC
Uncontrolled	1333.33	753.54
RFP On-Road Source Reductions	1263.52	715.81
RFP Post-2017 Controlled Emissions	69.81	37.73

## **Spreadsheet Navigation**

Go To Table of Contents

Go To Calc RFP Demo 2023

Go To Calc 2023 RFP MVEB

Go To Calc Targets

Go To Enter % RFP Cont & Conf SM

Go To Enter Reductions 2023

Go To Calc 2017 Base Year El

Go To Calc Uncontrol 2023 El

Go To Calc Control 2023

Go To El 2017 Summary

Go To El 2023 Summary